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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,584	10/17/2003	William Hein	PH020/003	2262

7590 07/12/2004  
Gene R. Woodle  
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Rapid City, SD 57702

EXAMINER

LEUNG, PHILIP H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,584	<b>Applicant(s)</b> HEIN ET AL.	
	<b>Examiner</b> Philip H Leung	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-17-2003</u> . | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The drawings filed on 10-17-2003 are acceptable.
3. Claims 5 and 7 are effectively identical. One of these claims needs to be cancelled or changed. Similarly, claims 9, 10 and 11 are effectively identical, two of these claims need to be cancelled or changed.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerling et al (US 4,326,114), in view of Chang et al (US 6,387,313) and Wear et al (US 4,640,020).

Gerling shows "a microwave roasting device for heating, drying and/or roasting materials (see col. 6, lines 44-47 and col. 10, lines 2-4) including (1) a loading section 52 into which the material may be introduced using loading means; (2) a treatment section 20 which is in communication with the loading section; (3) an unloading section 60 which is in communication with the treatment section; (4) a hopper 72 with a screw-feed mechanism (col. 6, lines 10-18) within said loading section which is capable of pushing the material from said loading section into said treatment section and through said treatment section into said unloading section; (5) a plurality of microwave guides (routine components but not explicitly shown) within said treatment section capable of directing microwaves from a microwave generator 64-1, 64-2, 64-3, 64-4 into the material within said treatment section, and (6) unloading means capable of removing the material from said unloading section; whereby material may be loaded into said loading section and pushed into said treatment section; the material treated by microwaves within said treatment section and the material removed from said unloading section by unloading means" (see Figures 1 and 2 and col. 5, line 24 – col. 7, line 43). Therefore, Gerling shows every feature and structure as claimed except that it uses a hopper 72 with a screw-feed mechanism instead of the claimed reciprocating ram as the material feeding device. Chang shows that it is well known in the art to use a rotating screw conveyor or a reciprocating ram or a piston as the material feeding device for loading material into a container for treating (see Figure 9 and col. 1, lines 13-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gerling to use any well known load feeding devices as

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reciprocating rams and rotating screw conveyors are functionally equivalent, in view of the teaching of Chang. Gerling does not explicitly show the structure of the item (5) microwave guides connected to the generators 64-1, 64-2, 64-3 64-4. Wear shows that it is well known in the art of conveyORIZED microwave dryer to use a plurality of microwave feed ports for directing microwave into the microwave treatment section to control the drying process. The feed ports routinely include a plurality of wave guides 116, 126, 132 connected to generators, 114, 124, 130 to radiating ports 118, 128, 134 for distributing microwave around the treatment section (see Figure 1 and col. 8, lines 24-54 and col. 9, line 39 – col. 10, line 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gerling to use a plurality of microwave guides each connected to a microwave generator for distributing microwave along the treatment section for better heating control, in view of the teaching of Wear. In regard to claims 3, 5, 6, 9 and 11, Gerling uses a tilted tube as “the treatment section may be tilted at an angle other than level to increase or decrease the flow rate of material through said treatment section” as claimed. In regard to claims 4, 9 and 10, Gerling also shows the use of a modular construction to permit scale up or scale down such that the length of the microwave dryer may be adjusted to suit production requirement (see col. 8, lines 47-51). In regard to claims 2, 7, 8, 10 and 11, Wear also teaches the use a purge gas passing over the product to carry away the vapor (see the abstract, last 5 lines and col. 11, line 34 – col. 12, line 18). It would have been further obvious to one of ordinary skill in the art at the time the invention was made to modify Gerling to circulate air into the microwave heating section for passing over the material to remove excessive vapor for better drying effect, in view of the teaching of Wear.

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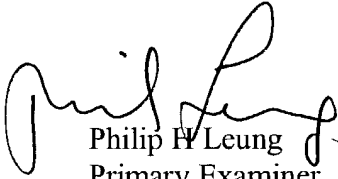
6. The prior art made of record below is considered pertinent to applicant's disclosure:

Meisel (US 4,246,462) is further cited to show of a microwave tunnel oven with a modular construction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (703) 308-1710.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Philip H Leung  
Primary Examiner  
Art Unit 3742

P.Leung/pl  
7-9-2004